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Deconstruction Reuse and Recycling Plan

May 5, 2017

Client: City of Madison

Project: 4016 Mineral Point Road Deconstruction

Location: 4016 Mineral Point Road, Madison, WI 53705

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Overview

The City of Madison will be using this Deconstruction Reuse and Recycling Plan as it demolishes a vacant single family home in order to build a new police station. Reusing and recycling materials, rather than sending them to the landfill during demolition, can substantially reduce the environmental impact of a development project. Reusing and recycling materials can also significantly reduce the overall costs associated with demolition.

This Deconstruction Reuse and Recycling Plan is divided into three phases in order to coordinate with the project timeline.

- **Reuse Phase:** The first priority for material reuse and recycling involves salvaging reusable items prior to deconstruction.
- **II. Pre-Deconstruction Phase Recycling:** Prior to full deconstruction, hazardous and regulated materials must be removed for proper disposal. These items include lighting, electronics, batteries, refrigerants, appliances, and hazardous chemicals.
- **III. Deconstruction Phase Recycling:** Recycling building materials during deconstruction and demolition can reduce negative environmental impacts and reduce landfill fees. Recyclable materials include concrete, brick, asphalt shingles, metal, and wood.



I. Reuse Phase

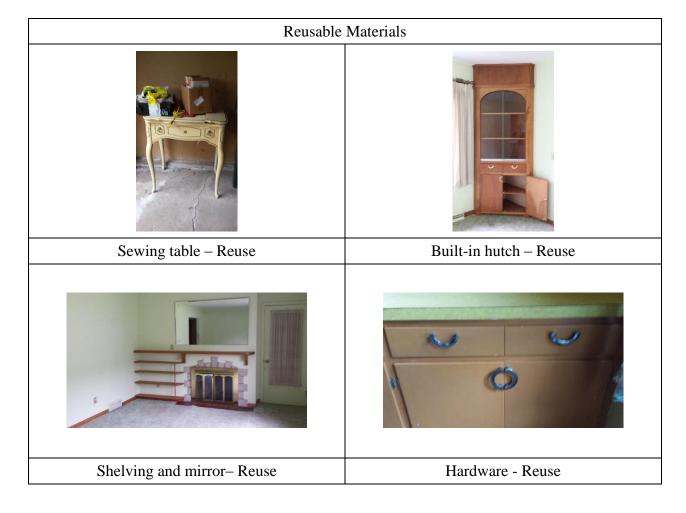
Reusing an item is the most environmentally friendly form of recycling. Accordingly, the reuse phase of this plan involves determining which materials can be used again in their original form for the same or different purpose.

Madison Environmental Group, LLC conducted an inventory of reusable items in the building and around the site, and identified markets for their reuse:

- Habitat ReStore of Dane County, 208 Cottage Grove Rd., Madison, WI 53716. Contact: Frank Byrne, Deconstruction Manager (608) 712-0737
 - o Habitat ReStore would be interested in cabinets, sewing table, kitchen sink, wood flooring, windows, and other miscellaneous building materials.

Online Postings

- o Cost: Items can be posted on several websites free of charge.
- Details: Items can be posted individually, or grouped as a deconstruction sale.
 Posting locations can include:
 - Madison Stuff Exchange (http://www.madisonstuffexchange.com/)
 - Madison Area Craig's List (http://madison.craigslist.org/)
 - Madison Freecycle (http://groups.yahoo.com/group/madisonfreecycle/)



Reusable Materials Kitchen sink – Reuse Wood flooring – Reuse Built-in cabinet- Reuse Windows – Reuse Bathroom mirror—Reuse Washer and dryer – Reuse

II. Pre-Deconstruction Recycling

For all materials removed during the pre-deconstruction phase, the deconstruction contractor shall provide evidence of proper handling. Receipts or other proof of recycling shall include the date(s), material, quantity, weight or volume, and recycling or disposal company contact information. It is the responsibility of the deconstruction contractor to ensure that all documentation of recycling and disposal is given to Madison Environmental Group, LLC.

Asbestos testing and abatement must be completed before deconstruction. Anyone involved in deconstruction should be familiar with the findings from the asbestos and lead reports and take the necessary safety precautions.

State hazardous waste regulations provide guidance for recycling the following items after the reuse phase is complete, and prior to building deconstruction.

Lighting

- Background Information: State hazardous waste regulations require all light bulbs and ballasts containing mercury or polychlorinated biphenyls (PCBs) to be recycled. If not reused, bulbs and ballasts must be taken to a recycler or consolidator. The consolidator or recycler must be licensed and in compliance with applicable environmental regulations. Potential materials of concern include:
 - **Fluorescent bulbs:** Fluorescent tubes contain mercury and are required to be recycled.
 - Fluorescent lamp ballasts: Each fluorescent lamp fixture contains a built-in ballast, which may contain PCBs. Any ballast containing PCBs must be recycled. Ballasts manufactured after 1979 with a "NO PCBs" label can be landfilled. Madison Environmental Group, LLC recommends that all ballasts are recycled to reduce future liability. Efficient electronic ballasts such as T-8 ballasts should be reused whenever possible.
 - Compact fluorescent lights (CFLs): CFLs contain mercury must be recycled if not reused. CFLs should be reused when possible.
 - **High intensity discharge (HID) lamps:** HID lamps contain lead and mercury (except for low pressure sodium lamps, which contain only lead). HID lamps containing mercury are required to be recycled. Madison Environmental Group, LLC recommends recycling all types of HID lamps to reduce future liability.
 - Capacitors in HID fixtures: Each HID fixture has a capacitor that may contain PCBs. Capacitors manufactured after 1979 with a "NO PCBs" label can be landfilled. Madison Environmental Group, LLC, however, recommends recycling all capacitors to reduce future liability.
 - **Incandescent bulbs:** Though these bulbs contain lead, they are not required to be recycled. However, Madison Environmental Group, LLC recommends recycling all types of bulbs to reduce future liability.
- *Site Materials:* Fluorescent bulbs, ballasts, CFL's and incandescent bulbs are located throughout the building and should be removed and recycled properly.

• Recyclers:

Midwest Lamp Recycling 3224 Kingsley Way, Madison, WI, 53713; (608) 275-6766

- Cost: Price varies depending on the size of the bulbs and ballasts. Discounts are offered for large quantities.
- Logistics: Materials can be dropped off at Midwest Lamp Recycling, or Midwest Lamp Recycling can pick them up for a fee.
- Details: Midwest Lamp Recycling offers barrels and boxes to consolidate materials on site.

Refrigerants

- Background Information: Refrigerants are used in cooling equipment such as air conditioners and refrigerators. Wisconsin Administrative Code NR 488 regulates handling and disposal of refrigerants. It requires all commercial entities handling and recovering these refrigerants and coolants to register with the Wisconsin DNR and annually certify that they will transport items in a manner that prevents refrigerant releases. Documentation of proper handling must be retained for three years.
- Site Materials: An AC unit was located in the back yard and a dehumidifier was located in the basement.
- Recycler:

Kruser Recycling.

6421 Edna Taylor Parkway, Monona, WI, 53716; (608) 223-9220

- Cost: \$10 per appliance, regardless of the type of appliance.
- **Logistics:** Appliances should be dropped off at the facility.

Appliances and HVAC equipment

- Background Information: Wisconsin Statute 287.07 requires the recycling of major appliances including clothes washers and dryers, dishwashers, air conditioners, stoves, ovens, microwave ovens, freezers, refrigerators, water heaters, furnaces, dehumidifiers, and boilers. All of these appliances have been banned from landfills since 1991. Microwave ovens may be landfilled only if the capacitor has been removed. Most major appliances are made primarily of high quality steel. They also may contain glass, plastic, rubber, copper, aluminum, and several hazardous materials that require special handling. Any appliances that have refrigerants or coolants must be handled according to instructions in the refrigerants section. All appliances less than ten years old and in good working condition should be removed for resale or reuse by Habitat ReStore.
- *Site Materials:* A clothes washer, dryer, dish washer, stove, hot water heater, furnace, and AC unit include the appliances identified on the site visit.
- Recyclers:

Kruser Recycling.

6421 Edna Taylor Parkway, Monona, WI, 53716; (608) 223-9220

- Cost: \$10 per appliance, regardless of the type of appliance.
- **Logistics:** Appliances should be dropped off at the facility.

Paints, Stains, and Other Chemicals

Background Information: Oil-based paints, products containing organic solvents, and latex
paint cans that are more than half full are considered hazardous waste and must be taken to a
designated recycler for disposal. Latex-based paints can be properly hardened and disposed
of in the trash if the can is less than half full.

- *Site Materials:* Paint and other chemicals were located in the basement.
- Recyclers:

Dane County Clean Sweep

7102 US Hwy 12, Madison WI 53718

- Cost: There is a \$10 charge for individuals dropping off hazardous waste at Dane County Clean Sweep. Businesses are charged a fee based on weight and type of materials.
- Logistics: Dane County Clean Sweep is open for drop-offs from Tuesdays Fridays 7:00am 2:45pm or Saturdays 8:00am 10:45am. They are closed Sundays, Mondays and Holidays. Businesses may drop materials at Clean Sweep by appointment only.
- **Details:** When bringing a load to Dane County Clean Sweep, products and materials should be packaged to keep them from spilling or breaking in transit. Leave materials in their original containers.

Thermostats Containing Mercury

- *Background Information:* Mercury-containing thermostats hold mercury equivalent to the amount in 200-300 fluorescent bulbs and must be recycled. Though mercury is a hazardous waste, the Universal Waste Rules allow thermostats to be recycled without going through a hazardous waste permitting process.
- *Site Materials:* There was one mercury-containing thermostat located in the dining room of the home.
- Recyclers:

Madison Gas and Electric,

133 South Blair Street, Madison, WI, 53703; (608) 252-7117

- Cost: MG&E accepts thermostats for recycling free of charge.
- **Logistics:** Deliver thermostats in a box to their reception area.

III. Deconstruction Phase Recycling

Madison Environmental Group, LLC has prepared this document as a guide for the deconstruction contractor to follow. Madison Environmental Group, LLC will be documenting the percentage of materials recycled during this project. The deconstruction contractor is required to ensure that all documentation of recycling and disposal is given to Madison Environmental Group, LLC. The documentation shall include: the date, material, weight, quantity or volume, and hauler, as well as recycling, diversion, or landfill information.

Brick and Stone

- *Background Information:* Brick and stone can be salvaged whole or crushed, or used as clean fill. Recycling brick and stone costs significantly less than sending it to the landfill.
- *Site Materials:* Decorative brick is located on the front of the house.
- Recycler:

Homburg, 6106 Milwaukee Street, Madison, WI, 53704; (608) 241-1178

- Cost: Homburg charges \$2/ton for brick and stone that is dropped off at their quarry to be used for fill.
- **Logistics:** Homburg can arrange to haul the materials or they can be dropped off at Homburg's quarry.
- **Details:** Brick must be free of all paint. Homburg reuses whole stone and crushes facing stone to use as fill.

Concrete and Concrete Block

- Background Information: Clean concrete and concrete block may be crushed and used as fill, aggregate in roadbeds, or for recycling into new concrete. "Clean" concrete is free of dirt, clay, wood, and any paint. Recycling these materials costs substantially less than hauling them to a landfill. Recycling also reduces the impacts of quarrying and extracting materials for new concrete.
- *Site Materials:* Concrete driveway, foundation, and sidewalks are recyclable.
- Recyclers:

<u>Homburg</u>, 6106 Milwaukee Street, Madison, WI, 53704. Contact: Mike Hackel (608) 241-1178

- Cost: The price depends on the quantity and type of concrete. Homburg charges \$3.10/ton if it is dropped off at their quarry to be used as fill.
- **Logistics:** Homberg can arrange the hauling, or materials can be dropped off at their quarry.
- **Details:** In order to be recycled to use as aggregate, concrete must be free of rebar. If it contains rebar, it will be used as clean fill. Homberg has a staffed scale and can provide receipts.

Metal

- Background Information: Though not required by law, we recommend recycling all metals.
 Painted metal, even if it contains lead-bearing paint, is typically recyclable.
- Site Materials: Although Habitat ReStore can remove most copper piping and miscellaneous metals during the reuse phase for recycling, it is inevitable that the building will still contain valuable recyclable metals such as the fence and ductwork.
- Recyclers:

All Metals Recycling 1802 South Park St, Madison, WI 53713; (608) 255-0960

- Cost: All Metals Recycling generally does not charge a bin placement, but charges \$100 per pull. They offer a rebate per ton, depending on the type of metal.
- Logistics: Haulers such as Waste Management also haul their bins of metal to All Metals for recycling. Therefore, it is financially beneficial to contract directly with All Metals Recycling for hauling, as opposed to going through a third party hauler. All Metals Recycling has 12, 20, 30, and 40 cubic yard bins.
- **Details:** They accept all types of metal for recycling, including iron, steel, aluminum, and copper. Metal must not be contaminated with materials such as cement, plastic wrap, or wood. They also accept metal appliances if the refrigerants and coolants have been removed.

Cardboard, Paper, Cans, and Bottles

- Background Information: Cardboard, paper, cans, and bottles must be recycled under Wisconsin law.
- *Site Materials*: Any recyclable materials on-site or generated during demolition must also be recycled. There were cardboard boxes left by the previous owner.
- Recycler:

<u>Madison Recycling Center</u>, 2200 Fish Hatchery Road, Madison, WI 53713; (608) 251-2115.

- Cost: No charge for recycling.
- **Logistics:** It only accepts materials from designated haulers.
- **Details:** The Madison Recycling Center is not affiliated with the City of Madison. It is operated by Recycle America, a division of Waste Management.

Wood

- Background Information: Any unpainted and untreated wood is recyclable. If possible, the
 demolition contractor should collect unpainted and untreated dimensional lumber and
 engineered lumber, such as oriented strand board (OSB), plywood, and particleboard for
 recycling.
- *Site Materials:* Any untreated and unpainted wood that can be separated from other building materials is recyclable. The garage and house rafters were unpainted and untreated.
- Recyclers:

Royal Container Service, P.O. Box 6438, Monona, WI 53716; (608) 206-3174

- Costs: Royal charges \$125 for a wood recycling container and hauling. There is no additional tipping fee.
- **Logistics:** Royal provides a container for recycling.
- **Details:** Wood that is treated, painted, or stained is not accepted. OSB, engineered lumber, and nails and fasteners smaller than 3/8" diameter are accepted.

Asphalt Shingles

- Background Information: Asphalt shingles have been banned from the Dane County Landfill.
 This material can be processed and used as part of a mix to manufacture new asphalt.
 Recycling asphalt is cost effective and reduces consumption of oil and other raw materials.
- *Site Materials:* The roofing material consists of asphalt shingles.
- Recyclers:

Dane County Landfill

7102 US Hwy 12, Madison WI 53718; (608) 838-9555

- Cost: Dane County Landfill will be accepting business and residential asphalt shingles. The rates are as follows:
 - Mixed Loads \$60.00 per ton (up to 20% wood, roof vents, flashing, etc.) Clean Loads \$38.00 per ton (only asphalt shingles, nails, and tar paper)
- Logistics: Monday Friday: 7:00 3:00
 No loads accepted after 2:45 must be unloaded and out by closing.
- **Details**: Shingles can be mixed with roofing debris but must be less than 20%.